SUPERFUND SITE CLOSE-OUT REPORT
M&T DELISA LANDFILL SITE
OCEAN TOWNSHIP, NEW JERSEY

I. SUMMARY OF SITE CONDITIONS

SITE BACKGROUND

The M&T DeLisa Landfill site (Site) is located in the southeastern corner of Monmouth County, northwest of the City of Asbury Park in Ocean Township, New Jersey. The parcel contains three major building complexes, the Seaview Square Mall complex (Mall), the Seaview Movie Theater complex, and the Acme Supermarket, each of which is surrounded by a paved parking area. The Site consists of 132 acres of which the former M&T DeLisa landfill occupied approximately 39 acres. The landfill was in operation from 1941 until 1974 under a New Jersey Department of Environmental Protection (NJDEP) permit. There is no documented evidence which demonstrates that the landfill was used for the disposal of hazardous wastes.

The landfill was closed in 1974 in accordance with the NJDEP requirements of the time. After closure an investigation of the landfill area was undertaken by Woodward-Gardner and Associates, Inc., for the Goodman Company. Subsequently the Goodman Company constructed the Mall on 30 acres of the 39-acre former landfill for Equitable Real Estate Investment Management, Inc., the present owner of the Mall property.

With the building of the Mall, which was completed in 1977, a number of construction elements were implemented to provide environmental controls, i.e., refuse movement, gas control, and leachate control. These are summarized below:

Refuse Movement. The refuse material was found to be unsuitable for building support, therefore, the refuse material situated under the planned Mall was excavated down to the underlying soils. It was placed in other areas of the Site which already contained refuse. The area excavated was filled in with clean soil which was capable of supporting the buildings. A clay barrier was installed between the clean fill and the refuse materials. The result was that the buildings are constructed within a low permeability bowl-shaped soil configuration composed of the naturally occurring, low permeability Shark River Marl material beneath the Mall and the 3 to 10 foot thick clay barrier installed during construction to prevent landfill gas migration to the buildings.

Landfill Gas Control. The mall construction implemented three measures to control the potential movement of landfill gas into the Mall. The first was the installation of the clay barrier discussed above. The second was the construction of passive

control vents, consisting of perforated horizontal collection pipes located in the refuse attached to vertical pipes open to the atmosphere, which provide a preferential pathway for landfill gas migration and help prevent horizontal migration into the buildings. The last measure was to limit the permeability of the Mall's utility corridors (which contain sanitary sewers, electrical wiring, etc.) by placing all utility lines within one narrow corridor, replacing refuse in this corridor with clean soil, and compacting the soil to reduce permeability. Utilities which could not be placed within this corridor were enclosed in concrete.

Leachate Control. Leachate is generated when rainfall infiltrates into the ground and percolates through refuse material, or when ground water moves horizontally through the refuse. Four measures were implemented to minimize leachate generation: modifications to the storm water collection system, construction of a leachate collection system, installation of a clay barrier, and covering the surface of the landfill with pavement. The manner in which these measures were implemented is described below:

- The storm water collection system was designed to keep storm water separate from leachate by, 1) using the parking lot as a low permeability cap over the refuse to reduce infiltration of precipitation and collect storm water runoff, 2) constructing catch basins and storm drain pipes as close to the surface as possible, and 3) constructing storm water pipes designed to be impermeable to leachate infiltration.

- A leachate collection system consisting of a perforated pipe within a gravel trench situated to intercept groundwater/leachate moving toward Deal Lake Brook was also installed; the liquid is then collected in a tank and discharged to a municipal waste water treatment plant.

- The clay barrier, which was installed between the refuse and clean soil fill, acts as a barrier to groundwater/leachate flow, preventing it from migrating to or under the Mall buildings.

- The surrounding parking lot acts as a low permeability cap thereby reducing the volume of rainwater which is available for leachate generation.

REMEDIAL INVESTIGATION RESULTS

Fred C. Hart and Associates under contract by the owner of the Site (the Equitable Life Assurance Society of the United States) conducted two environmental investigations, one in 1984 and more recently in 1988, both under EPA oversight. Upon completion of

the investigations, the following conclusions were reached.

- Groundwater quality in the local shallow Kirkwood aquifer immediately underlying the Site and in direct physical contact with landfill materials, does not appear to have been significantly impacted by hazardous substances. Due to the absence of any significant water quality degradation in the shallow Kirkwood aquifer, together with the laterally extensive presence of the Shark River Marl which locally serves as a confining layer below the Kirkwood aquifer, groundwater quality in the deeper Vincentown aquifer is not anticipated to be at risk as a result of past disposal practices at the Site.

- No volatile organic compounds (VOCs) or pesticide/polychlorinated biphenyl (PCB) compounds were detected above laboratory method detection limits during either sampling round in groundwater samples from private potable wells. Only one semi-volatile compound, di-n-octylphthalate, was detected during the 1988 round of sampling, and it was below levels of concern. Several metals, including copper, lead, nickel, and zinc, were also present below Safe Drinking Water Act (SDWA) standards in potable water samples collected during the 1984 sampling effort.

- Surface water and sediment samples collected did not indicate any significant environmental quality degradation due to hazardous substances at the down-gradient surface water locations.

- Although landfill gas is being generated at the Site, and there is evidence of slightly elevated levels of VOC accumulation along the unventilated northern edge of the mall, the sampling and analysis of specific VOC target compounds, such as benzene, toluene, and xylene, did not indicate a definitive pattern of gas infiltration. Therefore, it was determined that the landfill is not the source of detectable levels of VOCs in the Mall. In addition, concentrations of VOCs in the Mall are not outside the range of VOC concentrations typically found in other public and private indoor spaces.

Please refer to the Record of Decision Summary of Site Characterization and Summary of Site Risk sections for a detailed summary of these results. No Feasibility Study was conducted because the Remedial Investigation indicated that no further remediation was necessary under CERCLA.

RECORD OF DECISION FINDINGS

The Record of Decision for this Site, which was signed on September 20, 1990, states that the Site should be addressed under the authorities designated to close and monitor solid waste landfills. This determination was based upon a review of historical documentation which did not reveal any past disposal of hazardous waste at the Site, the results of the remedial investigation (RI) which demonstrate that the landfill is not a source of significant concentrations of any hazardous substances, and a conservative assessment of risk attributable to the release of hazardous substances from the landfill which indicates that the current risk posed by the Site is within an acceptable range.

Although remedial action under CERCLA is not warranted, EPA has recommended to the New Jersey Department of Environmental Protection's (NJDEP) Division of Solid Waste Management that a number of environmental controls be implemented and maintained at the Site to address potential problems associated with solid waste disposal. NJDEP's Division of Solid Waste Management regulates solid waste landfill activities in the State of New Jersey.

COMMUNITY RELATIONS ACTIVITIES PERFORMED

In accordance with the public participation requirements set forth in Sections 113 and 117 of CERCLA, the following activities were conducted. The Remedial Investigation Reports, the Endangerment Assessment, the Proposed Plan and other documents which comprise the administrative record for this site were released to the public for comment on June 18, 1990. These documents were made available to the public at the EPA Docket Room in Region II and at the Neptune Township Public Library in Neptune Township, New Jersey. On June 28, 1990, EPA published a notice in the Asbury Park Press which contained information relevant to the public comment period for the Site, including duration of the public comment period, date of the public meeting, and availability of the administrative record. The public comment period began on June 28, 1990 and ended on July 28, 1990. In addition, a public meeting was held on July 12, 1990, where representatives from EPA and the NJDEP answered questions regarding the Site and the decision under consideration. Responses to the significant comments received during the public comment period are included in the Responsiveness Summary, which is part of this Record of Decision.

II. DEMONSTRATION OF QA/QC FROM CLEANUP ACTIVITIES

A site specific work/quality assurance project plan for RI sampling and analysis activities was prepared, and was approved by the EPA Region 2 Quality Assurance Section. RI sampling collection and analytical procedures were conducted in compliance

with this plan.

The laboratory data was validated using procedures set forth in this site specific work/quality assurance project plan which is included as Section 5 in the Site Operations Plan for the remedial investigation.

III. MONITORING RESULTS

In 1984, lead and arsenic were detected in unfiltered monitoring wells in samples in concentrations above regulatory levels (i.e., 230 and 68 part per billion respectively). However, subsequent sampling efforts (both filtered and unfiltered) did not detect significant concentrations of metals. The highest concentration of lead and arsenic detected in post-1984 sampling were 42.8, and 13.8 part per billion (ppb), respectively, which are below federal SDWA maximum contaminant levels (MCLs) of 50 ppb. Although the metal concentration data from the initial round of sampling was not confirmed by subsequent sampling, EPA used this data in the risk assessment to provide a conservative evaluation of risk.

Surface water and sediment samples taken from the detention ponds and Deal Lake Brook in 1984 showed low to undetectable levels of VOCs. In a number of samples, levels of iron, copper and other non-hazardous metal were found in excess of secondary SDWA standards. While these metals in high enough doses can effect health, the secondary SDWA standards are based upon aesthetic water quality impacts such as the hardness and taste of the water.

Although collection of leachate seep samples were planned, seep samples were not taken because seeps were not observed during sampling events. Instead, soil samples were taken in areas where staining indicated a possible previous seep location. The only VOC found in the soil samples was methylene chloride (a common laboratory contaminant). In addition, metal concentrations were within the range of those typically found in natural soils.

Aqueous samples were collected from Site storm drains. These drains receive storm water runoff from the Mall parking lots. Lead was detected in one sample at 600 ppb. Methylene chloride was the only VOC detected.

Both the liquid and sludge present in the leachate tank were sampled. With respect to the liquid samples, no VOCs were detected. Iron and manganese, which are not hazardous substance under CERCLA, were at concentrations of up to 56 ppm and 0.19 ppm, respectively. The secondary SDWA MCL for iron is 0.3 ppm while manganese is 0.05 ppm. Low levels of a number of metals were also detected in sludge from the leachate collection tank including copper, nickel, zinc, lead and some chromium.

Methylene chloride and phthalates were also detected in sludge samples in 1984 but were not found in subsequent samples collected in 1988.

Air quality investigations were conducted during the RI in November/December of 1983, June of 1984, August of 1988, January of 1989, and October of 1989. The October 1989 effort, was performed by EPA. Samples were collected at all outdoor vents and indoors in all accessible areas of the lower levels of the Mall buildings. Outdoor vent sampling was done at the vent openings and at a distance of 50 meters from the vents. The sampling found some VOCs, methane, and carbon dioxide being liberated by the vents. Although indoor sampling found slightly elevated levels of VOCs along the northern edge of the Mall, no concentrations of VOCs above what would normally be expected in an indoor space were found.

IV. SUMMARY OF OPERATION AND MAINTENANCE

EPA has determined that, consistent with the remedy selected by EPA, any operation and maintenance activities should not be handled under the Superfund program. Subtitle D of the Resource Conservation and Recovery Act of 1976 as amended by the Solid Waste Disposal Act of 1980 (RCRA) is the Federal statute concerning solid waste landfills, and post-landfill closure monitoring requirements. NJDEP is authorized to regulate solid waste landfill closures and post-landfill closure ground water and surface water monitoring requirements in New Jersey. Current State statutes regulate post-landfill closure ground water and surface water monitoring requirements. It is EPA's understanding that the NJDEP plans to implement and maintain environmental controls at the Site to address potential problems associated with solid waste disposal. However, these measures are not necessary to mitigate any current threat of exposure to hazardous substances regulated by CERCLA.

V. SUMMARY OF FIVE YEAR REVIEW STATUS

EPA has determined that the Site should be addressed under the authorities designated to close and monitor solid waste landfills. This determination is based upon a review of historical documentation which did not reveal any past disposal of hazardous waste at the Site, the results of the remedial investigation (RI) which demonstrate that the landfill is not a source of significant concentrations of any hazardous substances, and a conservative assessment of risk attributable to the release of hazardous substances, from the landfill which indicates that the current risk posed by the Site is within an acceptable range.

EPA believes that is it is inappropriate to address this Site under Section 104 of CERCLA. An evaluation of remedial alternatives, a Feasibility Study, and a five year review, as

described by Section 121 (c) of CERCLA, are not appropriate for this Site. Therefore, an evaluation of remedial alternatives has not been conducted and Section 121 (c) of CERCLA, the statutory determination for a five year review is not applicable for this Site.

VI. PROTECTIVENESS

This declaration of "no action" constitutes the final action at the Site under Federal and State Superfund Programs. This "no action" decision is based upon a review of historical documentation which did not reveal any past disposal of hazardous waste at the Site, the results of the RI which demonstrate that the landfill is not a source of significant concentrations of any hazardous substances and a conservative assessment of risk attributable to the release of hazardous substances, from the Site, which indicates that the current risk posed by the Site is within an acceptable range. After the Site is transferred to the solid waste program of NJDEP, NJDEP may develop and implement actions as appropriate for post-closure landfill activities.

Although there is no significant contamination due to the release of hazardous substances which are attributable to the Site, EPA recommends that environmental controls be implemented to address potential solid waste issues.

VII. BIBLIOGRAPHY

Please refer to the attached Deletion Docket listing.

Approved by:

Constantine Sidamon-Eristoff, Regional Administrator

Date Nov 29, 1990

M&T DELISA LANDFILL SITE
NATIONAL PRIORITIES LIST DELETION DOCKET *
INDEX OF DOCUMENTS

SITE BACKGROUND

Hazardous Ranking System Package Information

Hazardous Ranking System Package Information, prepared by Ms. Amelia Janisz, 8/2/82.

REMEDIAL INVESTIGATION

Remedial Investigation Reports

Report: Final Report, Seaview Square Mall, Remedial Investigation, prepared by Fred C. Hart Associates, Inc., 8/84.

Report: Final Remedial Investigation Report, Former M&T Delisa Landfill (Seaview Square Mall), Asbury Park, New Jersey, Volume I, including Appendices A-E, prepared by Fred C. Hart Associates, Inc., 3/30/90.

Report: Remedial Investigation Report, Appendices F-L, Former M&T Delisa Landfill (Seaview Square Mall), Asbury Park, New Jersey, Volume II, prepared by Fred C. Hart Associates, Inc., 3/30/90.

Endangerment Assessment

Report: Final Endangerment Assessment, M&T Delisa Landfill, Asbury Park, New Jersey, prepared by Versar Inc., 6/22/90.

ATSDR Health Assessment

Memorandum to Mr. Howard Orlean from Mr. William Nelson and Ms. Denise Johnson, Department of Health and Human Services, re: Completed preliminary Health Assessment, 2/14/89. The preliminary Health Assessment is attached.

DECISION DOCUMENTS

Proposed Plan

Superfund Proposed Plan for M&T DeLisa Landfill Site, Ocean Township, New Jersey, prepared by EPA Region II, 6/90.

Record of Decision

Record of Decision for M&T DeLisa Landfill and Responsiveness Summary, prepared by EPA Region II, 9/20/90.

STATE COORDINATION

Correspondence

Letter to Mr. Constantine Sidamon-Eristoff, Regional Administrator, USEPA, from Ms. Judith A. Yaskin, Commissioner, NJDEP, re: State concurrence on the Record of Decision, 9/17/90.

ENFORCEMENT

Enforcement History

Civil Action Summons, Deal Lake Commission vs. Seaview Square Joint Venture, et. al., Superior Court of New Jersey, 12/29/87. The Civil Action Complaint is attached.

Civil Action Answer, Answer to Crossclaims, Crossclaims, Demand for Damages, Demand for Jury Trial, Deal Lake vs. Seaview Square Joint Venture, et. al., Superior Court of New Jersey, 4/15/82.

Administrative Orders

Administrative Order on Consent, Index No. II RCRA-3013-40101, 11/29/83.

Administrative Order on Consent, Index No. II CERCLA-80105, 3/31/88.

PUBLIC PARTICIPATION

Community Relations Plan for the M&T DeLisa Superfund Site, prepared by Booz, Allen & Hamilton, Inc., for EPA Region II, 10/90.

Open letter to public from Mr. Lance R. Richman, P.G., Remedial Project Manager, EPA, re: Response to comments for the Proposed Plan, 10/22/90.

Note: The above documents are contained in the Administrative Record for the Record of Decision for the M&T DeLisa site. The following items will be inserted into the Deletion Docket once they are completed.

DELETION DOCUMENTS

Superfund Site Close-Out Report for the M&T DeLisa Landfill Site, Ocean Township, New Jersey, prepared by EPA Region II.

Responsiveness Summary for Notice of Intent to Delete, prepared by EPA Region II.

* Deletion Docket file available 11/2/90.